



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,660	05/25/2001	Igor Davidovich Kushnirskiy	30014200-1062	4544
58328 7590 01/24/2008 SUN MICROSYSTEMS C/O SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080			EXAMINER ZHEN, LI B	
			ART UNIT 2194	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/865,660

Applicant(s)

KUSHNIRSKIY, IGOR
DAVIDOVICH

Examiner

Li B. Zhen

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 16-30 are pending in the applications. Claims 1-15 are cancelled.

Response to Arguments

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 16-18, 20-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Application Publication No. 2001/0037417 to Meyer [previously cited in the previous office action] in view of U.S. Patent No. 6,321,275 to McQuistan et al. [hereinafter McQuistan].**

The applied reference [Meyer] has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not

claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

5. As to claim 16, Meyer teaches the invention substantially as claimed including a method in a data processing system for remote inter-language method calling [Service 111 issues a call 112 to a service 161 of a second computer software program 160 executing within a second execution environment 150 that is different from first execution environment 120; p. 3, paragraph 0049] comprising:

receiving, at a connect module [intermediary proxy 185], a method call from a proxy object [proxy 130A] using an intermediary protocol [proxy 130A in response to a call 112 from service 111 of software program 110 issues a call 131 to an intermediary proxy 185 in execution environment 180 that is different from both execution environment 120 and execution environment 150; p. 3, paragraph 0053], the method call being translated from a first protocol to the intermediary protocol by the proxy object [proxy 130A converts the call from the first binary specification to the binary specification for execution environment 180 and dispatches a call 131 to intermediary proxy 185; p. 3, paragraph 0054];

translating the method call, by the connect module, from the intermediary protocol [binary specification of execution environment 180] to a second protocol [Intermediary proxy 185 converts the call from the binary specification of execution environment 180 to the binary specification of execution environment 150; p. 3, paragraph 0054], wherein the connect module includes stub implementations [each bridge can create proxy objects only from the description of an interface; p. 3, paragraph 0055] for a plurality of protocols [type descriptions are used to map types between environments; p. 7, paragraph 0093] and call parameters [Proxy 130 converts any parameters in the call to parameters for second execution environment 150 using a type description, p. 3, paragraph 0050] and return values [Proxy 130 converts the result and any parameters returned from second execution environment 150 to first execution environment 120, p. 3, paragraph 0051]; and

issuing the method call [dispatches call 186 to service 161], by the connect module, to a method using said second [binary specification of execution environment 150] protocol [Intermediary proxy 185 converts the call from the binary specification of execution environment 180 to the binary specification of execution environment 150 and then dispatches call 186 to service 161; p. 3, paragraph 0054]. Although Meyer teaches the invention substantially, Meyer does not specifically disclose a call parameter data structure that includes a calling stack slice for storing call parameters and return values.

However, McQuistan teaches a data processing system for remote procedure calls [col. 5, lines 1 – 29] and a call parameter data structure [runtime buffer maintained by the RPC runtime 402; col. 6, line 46 – col. 7, line 3] that includes a calling stack slice

[interpreter walks the argument stack of the caller and stores the arguments into a runtime buffer that is allocated from the RPC runtime facility; col. 7, line 65 – col. 8, line 35] for storing call parameters [unmarshal the parameters within the runtime buffer to a buffer that is utilized by the interpreter as the argument stack; col. 9, line 54 – col. 10, line 20] and return values [interpreter 418 copies the returned results into an RPC runtime buffer; col. 7, lines 3 – 26].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Meyer to incorporate the features of McQuistan because this saves significant storage within a data processing system that performs remote procedure calls [col. 3, line 57 – col. 4, lines 12 of McQuistan] and allows for the flexibility to use stubs with server side application programs [col. 3, line 57 – col. 4, line 12 of McQuistan].

6. As to claim 17, Meyer teaches the first protocol is selected from the group of Java [JAVA; p. 5, paragraph 0071 and p. 9, paragraph 0195, Table 5], XPCOM and UNO [UNO environment; p. 5, paragraph 0071 and p. 9, paragraph 0195, Table 5].

7. As to claim 18, Meyer teaches the second protocol is selected from the group of Java [JAVA; p. 5, paragraph 0071 and p. 9, paragraph 0195, Table 5], XPCOM and UNO [UNO environment; p. 5, paragraph 0071 and p. 9, paragraph 0195, Table 5].

8. As to claims 20-22, these are system claims that correspond to method claims 16-18; note the rejections to claims 16-18 above, which also meet these system claims.

9. As to claims 24-26, these are product claims that correspond to method claims 16-18; note the rejections to claims 16-18 above, which also meet these product claims.

10. **Claims 16-18, 20-22, 24-26 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,609,158 to Nevarez et al. [hereinafter Nevarez, previously cited] in view of McQuistan.**

11. As to claim 16, Nevarez teaches the invention substantially as claimed including a method in a data processing system for remote inter-language method [remote provider 246 provides object access through a remote bridge 248 and the UCS product 224; col. 10, lines 38-54] calling comprising:

receiving, at a connect module [a universal language adapter 226; col. 10, lines 5-21], a method call from a proxy object [C/C++ language 206, and the Perl and NSN languages through their extensions 212, 214, each access objects through a C/C++ UCS API 218; col. 9, line 61 – col. 10, line 4] using an intermediary protocol [, the method call being translated from a first protocol to the intermediary protocol by the proxy object [APIs 218, 220 provide calls into a UCS product 224, such as calls to create objects, delete objects, or invoke methods of objects; col. 9, line 61 – col. 10, line 4];

translating the method call, by the connect module, from the intermediary protocol to a second protocol [core 228 is thus a mapping layer or engine which converts script commands from the universal language adapter 226 into calls to the

object model adapter 230; col. 10, lines 5-21], wherein the connect module includes stub implementations for a plurality of protocols [Java component provider 232, ActiveX component provider 238, UCX component provider 242, col. 10, lines 20-40] and call parameters [relays parameters] and return values [remote provider 230 accepts calls from the object model adapter 246, uses standard network technology such as the remote bridge 248 to contact remote objects, and relays parameters and results; col. 10, lines 38 – 55]; and

issuing the method call, by the connect module, to a method using said second protocol [connections provided by the UCS product 224 or another product according to the invention are used to provide access between disparate components. For instance, a Perl script may invoke a Java object method, a Java object may invoke an NLM or NMX function; col. 12, line 66 – col. 13, line 15]. Although Nevarez teaches the invention substantially, Nevarez does not specifically disclose a call parameter data structure that includes a calling stack slice for storing call parameters and return values.

However, McQuistan teaches a data processing system for remote procedure calls [col. 5, lines 1 – 29] and a call parameter data structure [runtime buffer maintained by the RPC runtime 402; col. 6, line 46 – col. 7, line 3] that includes a calling stack slice [interpreter walks the argument stack of the caller and stores the arguments into a runtime buffer that is allocated from the RPC runtime facility; col. 7, line 65 – col. 8, line 35] for storing call parameters [unmarshal the parameters within the runtime buffer to a buffer that is utilized by the interpreter as the argument stack; col. 9, line 54 – col. 10,

line 20] and return values [interpreter 418 copies the returned results into an RPC runtime buffer; col. 7, lines 3 – 26].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Nevarez to incorporate the features of McQuistan because this saves significant storage within a data processing system that performs remote procedure calls [col. 3, line 57 – col. 4, lines 12 of McQuistan] and allows for the flexibility to use stubs with server side application programs [col. 3, line 57 – col. 4, line 12 of McQuistan].

12. As to claim 17, Nevarez teaches the first protocol is selected from the group of Java [Java; col. 10, lines 20-40], XPCOM and UNO [Universal Component System; col. 6, line 62-col. 7, line 10].

13. As to claim 18, Nevarez teaches the second protocol is selected from the group of Java [Java; col. 10, lines 20-40], XPCOM and UNO [Universal Component System; col. 6, line 62-col. 7, line 10].

14. As to claim 28, Nevarez teaches the call parameters are placed by value in the call parameter data structure [manner of passing parameters to the method (e.g., by address or by value); col. 11, line 65 – col. 12, line 5].

15. As to claims 20-22 and 29, these are system claims that correspond to method claims 16-18 and 28; note the rejections to claims 16-18 and 28 above, which also meet these system claims.

16. As to claims 24-26 and 30, these are product claims that correspond to method claims 16-18 and 28; note the rejections to claims 16-18 and 28 above, which also meet these product claims.

17. **Claims 19, 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nevarez and McQuistan further in view of "Project Blackwood: Integration of the Java Platform with Mozilla" [hereinafter Drapeau, previously cited].**

18. As to claims 19, 23 and 27, Nevarez as modified teaches the Java protocols [Java; col. 10, lines 20-40 of Nevarez] and UNO protocol [Universal Component System; col. 6, line 62-col. 7, line 10 of Nevarez], but does not disclose the XPCOM protocol.

However, Drapeau teaches a Java Bridge to XPCOM [p. 2, BlackConnect: Java Bridge to XPCOM].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the system of Nevarez and McQuistan to incorporate the features of Drapeau because this allows for the dynamic binding of Java to XPCOM components at runtime so that other facilities and extensions can be implemented in Java [p. 2, BlackConnect: Java Bridge to XPCOM, 2nd paragraph of Drapeau].

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

CONTACT INFORMATION

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
09/865,660
Art Unit: 2194

Page 11

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li B. Zhen
Primary Examiner
Art Unit 2194

lbz

